



---

**ZERA**

# COM500x

## Product Catalogue

Doc.No: 100352729  
Version from: 01.01.2024

---

## Device

**COM5003 Three Phase Comparator**

Inclusive adjustment and factory calibration for one mains frequency.

Ord.No. **1016720xx**

Calibration	Ord.No.
Factory 50 Hz	xx → 00
Factory 60 Hz	xx → 01
DAkKS 50 Hz	xx → 02
DAkKS 60 Hz	xx → 03

COM5003 is a highly precise Comparator which offers the opportunity to compare the tractability of the internal frequency and the AC/DC transfer voltage to external Standards.

Configuration:

- Direct current measurement up to 580 V / 160 A
- Accuracy for power/energy measurement: < ±0,008 %
- Power measurement with alternating energy direction
- Active impedance compensation for currents ≤ 100 mA
- Integrated Linux OS
- Capacitive user touch screen

**COM5002 Three Phase Comparator**

Inclusive adjustment and factory calibration for one mains frequency.

Ord.No. **1016721xx**

Calibration	Ord.No.
Factory 50 Hz	xx → 00
Factory 60 Hz	xx → 01
DAkKS 50 Hz	xx → 02
DAkKS 60 Hz	xx → 03

COM5002 is a highly precise Comparator which offers the opportunity to compare the tractability of the internal frequency and the AC/DC transfer voltage to external Standards.

Configuration:

- Direct current measurement up to 580 V / 160 A
- Accuracy for power/energy measurement: < ±0,008 %
- Power measurement with alternating energy direction
- Active impedance compensation for currents ≤ 100 mA
- Integrated Linux OS
- Capacitive user touch screen

## Power Cords



**Power cord "Class I grounded plug type E/F to IEC 60320 C13", 2.5 m**

For supply via power socket.

- 1x class I grounded plug type E/F (CEE 7/7), straight
- 1x socket IEC 60320 C13

Ord.No.

**M00481006**

**Power cord "Class I grounded plug type E/F to IEC 60320 C13", 2.5 m**

For supply via power socket.

- 1x class I grounded plug type E/F (CEE 7/7)
- 1x socket IEC 60320 C13, angled

Ord.No.

**M00481004**

**Power cord "Plug type B to IEC 60320 C13", 2.5 m**

For supply via power socket.

- 1x plug type B
- 1x socket IEC 60320 C13

Ord.No.

**X00006459**

**Power cord "Plug type I to IEC 60320 C13", 2.5 m**

For supply via power socket.

- 1x plug type I (AS/NZS 3112, 3-pin)
- 1x socket IEC 60320 C13

Ord.No.

**X00006460**

**Power cord "Plug type G (BS 1363) to IEC 60320 C13", 2.5 m**

For supply via power socket.

- 1x Plug type G (BS 1363)
- 1x socket IEC 60320 C13

Ord.No.

**X00009832**

**Power cord "Plug type D (BS 546) to IEC 60320 C13", 1.8 m**

For supply via power socket.

- 1x Plug type D (BS 546)
- 1x socket IEC 60320 C13

Ord.No.

**100929900****Power cord "Plug type H" to IEC 60320 C13", 1.8 m**

For supply via power socket.

- 1x Plug type H
- 1x socket IEC 60320 C13

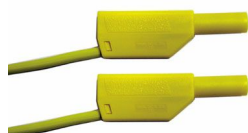
Ord.No.

**100929903****Current and Voltage Cables (see also Special Accessories)****Laboratory cable with stackable plug, red, 2.0 m**

Measurement category III (CAT III).

- 2x stackable 4 mm plugs with rigid insulating sleeve
- Lead cross section: 2.5 qmm

Ord.No.

**X00007597****Laboratory cable with stackable plug, yellow, 2.0 m**

Measurement category III (CAT III).

- 2x stackable 4 mm plugs with rigid insulating sleeve
- Lead cross section: 2.5 qmm

Ord.No.

**X00006907****Laboratory cable with stackable plug, blue, 2.0 m**

Measurement category III (CAT III).

- 2x stackable 4 mm plugs with rigid insulating sleeve
- Lead cross section: 2.5 qmm

Ord.No.

**X00007598**



- Laboratory cable with stackable plug, black, 2.0 m**  
 Measurement category III (CAT III).
- 2x stackable 4 mm plugs with rigid insulating sleeve
  - Lead cross section: 2.5 qmm

Ord.No. **X00006910**



- Current cable up to 160 A, 2.0 m,**
- 1x 8 mm socket
  - 1x 10,5 mm cable lug
  - Lead cross section: 50 qmm
  - Phase colours:  
 Please specify the colour code when ordering. The cables will get a corresponding coloured marking.  
**21=black, 22=red, 23=blue, 24= yellow, 25=green, 26=violet, 27=brown, 28=grey, 29=white**

Ord.No. **1011942xx**

xx please select the colour



- Connection-Adapter (8,5mm lug)**  
 Lockable adapter plug to connect cables with cable lugs to the 8 mm plug system of the instrument.  
 Designed as
- 8 mm plug
  - 8,5 mm screw terminal

Ord.No. **101027920**

For each phase 1 adapter is required.



- Connection-Adapter (6 / 4 mm plug system)**  
 Lockable adapter plug to connect cables via 6 / 4 mm plugs the instrument.  
 Designed as
- 8 mm plug
  - 6 / 4 mm socket system

Ord.No. **101155610**

For each phase 2 adapters are required.



### Current cable up to 120 A, on double-side socket, 2.0 m,

- 2x 6 mm socket
- Lead cross section: 35 qmm
- Phase colours: Please specify the colour code when ordering. The cables will get a corresponding coloured marking.  
**21=black, 22=red, 23=blue, 24= yellow, 25=green, 26=violet, 27=brown, 28=grey, 29=white**

xx please select the colour

Ord.No. **1011979xx**



### Plug-in Adapter Pin 3 mm

For meter connection via terminal, realised as brass silver plated.

The two sides of the pin has different diameters and functions.

- 1 Side 6 mm **pin for test leads**
- 1 Side 3 mm-**pin for meter terminals**

The 6 mm pin is special designed for ZERA 6 mm socket system used with current test leads.

Ord.No. **Z10120115**



### Plug-in Adapter Pin 4,2 mm

For meter connection via terminal, realised as brass silver plated.

The two sides of the pin has different diameters and functions.

- 1 Side 6 mm **pin for test leads**
- 1 Side 4,2 mm-**pin for meter terminals**

The 6 mm pin is special designed for ZERA 6 mm socket system used with current test leads.

Ord.No. **Z10120112**



### Plug-in Adapter Pin 5,5 mm

For meter connection via terminal, realised as brass silver plated.

The two sides of the pin has different diameters and functions.

- 1 Side 6 mm **pin for test leads**
- 1 Side 5,5 mm-**pin for meter terminals**

The 6 mm pin is special designed for ZERA 6 mm socket system used with current test leads.

Ord.No. **Z10120108**

**Plug-in Adapter Pin 6 mm**

The adapter is realized in brass silver plated. The two sides of the pin have the same dimensions (6 mm) and are special designed for ZERA 6 mm socket system used with current test leads and/or connection to modern ZERA meter test system (MTS).

Ord.No.	<b>Z10120109</b>
---------	------------------

**Plug-in Adapter cable lug 8,5 mm closed**

For current connection via screw terminals, realised as brass silver plated. The two sides of the pin has different connectors and functions.

- 1 Side 6 mm **pin for test leads**
- 1 Side 8,5 mm-**cable lug closed in for screw terminals**

The 6 mm pin is special designed for ZERA 6 mm socket system used with current test leads.

Ord.No.	<b>100640906</b>
---------	------------------

**Plug-in Adapter cable lug 10,5 mm closed**

For current connection via screw terminals, realised as brass silver plated. The two sides of the pin has different connectors and functions.

- 1 Side 6 mm **pin for test leads**
- 1 Side 10,5 mm-**cable lug closed in for screw terminals**

The 6 mm pin is special designed for ZERA 6 mm socket system used with current test leads.

Ord.No.	<b>100640907</b>
---------	------------------

**Current cable up to 120 A, double-side socket, 1.0 m, for connection between source and reference meter.**

- 2x 6 mm socket
- Lead cross section: 35 qmm
- Phase colours: Please specify the colour code when ordering. The cables will get a corresponding coloured marking.

**21=black, 22=red, 23=blue, 24= yellow, 25=green, 26=violet, 27=brown, 28=grey, 29=white**

Ord.No.	<b>1012006xx</b>
---------	------------------

xx please select the colour

Impulse Sensor (see also Special Accessories)



**TK118, scanning head**  
For detection of LED signals of electronic meters.

- Fixing: Via provided suction cup or via optionally available stretchable holding device for scanning heads TK326/TK118.

Ord.No. 100201900



**TK326, scanning head without holding device**  
For detection of rotor disc markings on Ferraris meters and LED signals on electronic meters.

- Fixing: Via stretchable holding device for scanning heads TK326/TK118.

Ord.No. 101064901



**Holding device for scanning head TK326/ TK118**  
Stretchable holding device to fix the scanning head TK326 or TK118 at the electricity meter.

- Maximum wingspan: 19.0 cm.

Ord.No. 100319600



**Connection cable for RJ10 socket input (SC)**  
The spiral cable for connecting of TKxxx or K121 to the ZERA instrument.

- 2x Modular connector RJ10
- Length: 1.00 m / expanded: 6.00 m

Ord.No. Z10353027

Connectors (see also Special Accessories)



**Accessories bag with connection adapters (COM500x)**

01 Accessories bag	100214400
04 Spring clip	100606750
10 Adapter for terminal blocks	101584400
06 Adapter with cable lug	X00004963
04 4-mm test clips (crocodile clips), slim	X00009329
06 4-mm test clips (crocodile clips), wide	X00010059
10 Fuse, 3.15 A 5 mm x 20 mm, time-lag	M00460252

Ord.No. 100023743



Transport (see also Special Accessories)



**Transport Case 1 with wheels for  
COM500x; WM3000; WM1000**

Ultra High Impact Copolymer Polypropylene case with  
inlet from rigid foam, designed for

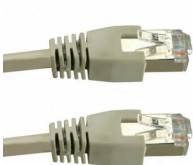
- 1 Instrument
- Accessories

Overall dimensions:  
80,8 cm x 58,7 cm x 48,4 cm (H x W x D)

*Please clarify whether the case size is suitable  
for the ordered accessories.*

Ord.No. 100023908

Standard Accessories (see also Special Accessories)



**Patch cable RJ45, 1 m**

Ord.No. 100161606



**Patch cable RJ45, 3 m**

Ord.No. 100161607



**Patch cable RJ45, 5 m**

Ord.No. 100161603



**Coaxial cable with BNC plug, 2 m**

- 2x BNC plug

Ord.No. Z09548320



**USB Flash Drive, 16GB**  
To store customer data and measuring values.  
Provides easy data transfer from the instrument to the PC.

Ord.No. 101198360

Documentation



**Complete Documentation**  
as pdf files on USB flash drive

Ord.No. 100090716

Special Accessories (Current and Voltage Cables)



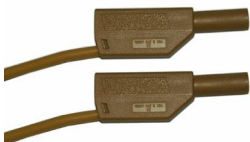
**Laboratory cable with stackable plug, green, 2.0 m**  
Measurement category III (CAT III).  
• 2x stackable 4 mm plugs with rigid insulating sleeve  
• Lead cross section: 2.5 qmm

Ord.No. X00006908



**Laboratory cable with stackable plug, violet, 2.0 m**  
Measurement category III (CAT III).  
• 2x stackable 4 mm plugs with rigid insulating sleeve  
• Lead cross section: 2.5 qmm

Ord.No. X00006909



**Laboratory cable with stackable plug, brown, 2.0 m**  
Measurement category III (CAT III).  
• 2x stackable 4 mm plugs with rigid insulating sleeve  
• Lead cross section: 2.5 qmm

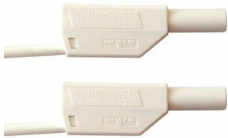
Ord.No. 100414100

**Laboratory cable with stackable plug, grey, 2.0 m**

Measurement category III (CAT III).

- 2x stackable 4 mm plugs with rigid insulating sleeve
- Lead cross section: 2.5 qmm

Ord.No.

**100414103****Laboratory cable with stackable plug, white, 2.0 m**

Measurement category III (CAT III).

- 2x stackable 4 mm plugs with rigid insulating sleeve
- Lead cross section: 2.5 qmm

Ord.No.

**100662500****Special Accessories (Connectors)****Cable bridge, black, 0.25 m**

Measurement category III (CAT III).

- 2x stackable 4 mm plugs with rigid insulating sleeve
- Lead cross section: 2.5 qmm

Ord.No.

**X00003092****Connecting terminals for current**

- Isolating screw joint for flexible wire connection  
max cable size 1,5 ... 16 mm<sup>2</sup>
- Socket: 4 mm rigid socket in insulator accepting  
spring-loaded 4 mm plugs with rigid insulating sleeve.

Ord.No.

**X00011923****Adapter for terminal blocks**

- Connection via insulated flexible copper conductor.
- Socket: 4 mm rigid socket in insulator, made of brass,  
accepting spring-loaded 4 mm plugs with rigid insulating  
sleeve.

Ord.No.

**101584400**

**4 mm plug adapter (banana plug)**

- Plug: 4 mm spring-loaded plug, made of brass.
- Socket: 4 mm rigid socket in insulator accepting spring-loaded 4 mm plugs with rigid insulating sleeve.

Ord.No. **X00004962****4 mm cable lug adapters**

- Cable lug adapter, made of brass for permanent installation, e. g. for connecting screw terminals.
- Socket: 4 mm rigid socket in insulator accepting spring-loaded 4 mm plugs with rigid insulating sleeve.

Ord.No. **X00004963****Spring clip**

- Connection via spring clip.
- Socket: spring-loaded 4 mm plugs with rigid insulating sleeve.

Ord.No. **100606750****Test plugs for terminal blocks**

- Plug: 4 mm test plug, made of brass with spring-loaded plug for connecting into rail mounted terminals with 4 mm sockets.
- Socket: 4 mm rigid socket in insulator accepting spring-loaded 4 mm plugs with rigid insulating sleeve.

Ord.No. **100102400****4 mm test clips (crocodile clips), wide**

- Crocodile clip made of brass with all-round insulation. Toothed jaws for wide grip with surface for fine wire.
- Socket: 4 mm rigid socket in insulator accepting spring-loaded 4 mm plugs with rigid insulating sleeve.

Ord.No. **X00010059**

**4 mm test clips (crocodile clips), slim**

- Small, slim crocodile clip made of brass with all-round insulation. Toothed jaws for wide grip with surface for fine wire.
- 4 mm rigid socket in insulator accepting spring-loaded 4 mm plugs with rigid insulating sleeve.

Ord.No. **X00009329****Accessories bag without content**

DIN A6, material: polypropylene

Ord.No. **100214400****Fuse, 3.15 A, 5 mm x 20 mm, time-lag**Ord.No. **M00460252****Special Accessories (General)****Adapter "USB to RS232" (32/64 bit), 1.5 m**

For use with an external PC/Notebook (32/64 bit) with WINDOWS OS (7, 8, 10).

Ord.No. **101421801****Interface cable, RS232, crossed wired (null modem cable)**

Connection cable for communication

- 2x D-Sub socket, 9-pin
- Cable length: 3.00 m

Ord.No. **X00010844**

**Pulse shaper K129**

The adapter K129 can be connected between the TTL-output and the Fin-input. The TTL-level will be converted into an Open-Collector-output. The necessary power supply ( $> 3.4 \text{ V}$  / approx.  $40 \mu\text{A}$ ) will be provided by the input, resp. output signal.

Ord.No.	<b>100311100</b>
---------	------------------

**Pulse Scaler K133**

The adaptor K133 is for the reduction ratio (1000:1, 100:1, 10:1, 1:1) of working standard pulses.  
Input: BNC  
Output: RJ10 socket

Ord.No.	<b>100453201</b>
---------	------------------

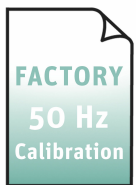
## Readjustment (for Service)

**AC-Adjustment of COM500x**

*Note:* Calibration and Calibration report are not included.

Ord.No.	<b>101049020</b>
---------	------------------

## Calibration (for Service)



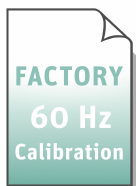
**AC Factory Calibration for COM500x, 50 Hz**  
incl. ZERA calibration report.

Ord.No.	<b>100890841</b>
---------	------------------

**Load points according to ZERA regulations.**

Summary of used load points can be downloaded at [www.zera.de](http://www.zera.de).

Additional load points are subject to charges.



**AC Factory Calibration for COM500x, 60 Hz**  
incl. ZERA calibration report.

Ord.No.	<b>100890842</b>
---------	------------------

**Load points according to ZERA regulations.**

Summary of used load points can be downloaded at [www.zera.de](http://www.zera.de).

Additional load points are subject to charges.



**Factory Calibration**  
for instrument, each additional  
load point for power and energy

Ord.No. 100007093



**Factory Calibration**  
for instrument, each additional  
load point for current and/or voltage

Ord.No. 100007094



**AC-DKD-Calibration 50 Hz for COM500x**  
• Incl. DKD calibration certificate acc. IEC 17025  
  
**Load points according to ZERA regulations.**  
Summary of used load points  
can be downloaded at [www.zera.de](http://www.zera.de).

Ord.No. 100519689

Additional load points are subject to charges.



**AC-DKD-Calibration 60 Hz for COM500x**  
• Incl. DKD calibration certificate acc. IEC 17025  
  
**Load points according to ZERA regulations.**  
Summary of used load points  
can be downloaded at [www.zera.de](http://www.zera.de).

Ord.No. 101173903

Additional load points are subject to charges.



**DAkks DKD-Calibration (acc. IEC 17025)**  
for instrument, each additional  
load point for power and energy

Ord.No. 100006893



**DAkkS DKD-Calibration (acc. IEC 17025)  
for instrument, each additional  
load point for current / voltage**

Ord.No.	<b>100006894</b>
---------	------------------



---

ZERA GmbH  
Humboldtstrasse 2a  
D-53639 Koenigswinter  
Phone: +49 (0)2244 9277-0  
E-Mail: [zera@zera.de](mailto:zera@zera.de)  
Internet: [www.zera.de](http://www.zera.de)  
Managing Director: Horst Wächter  
Headquarter: Königswinter

---

Commerzbank Bonn  
IBAN: DE29 3804 0007 0113 3131 00  
SWIFT (BIC): COBADEFF380

Kreissparkasse Köln  
IBAN: DE15 3705 0299 0001 0784 92  
SWIFT (BIC): COKSDE33

HRB 7073 Siegburg  
VAT-IdNo. DE 218 515 479  
WEEE-Reg.Nr. DE 53879641

---

## Notes on using the product catalogue

When ordering, always state the order number.

Pictures can differ from original product.

We follow ZVEI terms of delivery, see on [www.zera.de](http://www.zera.de)